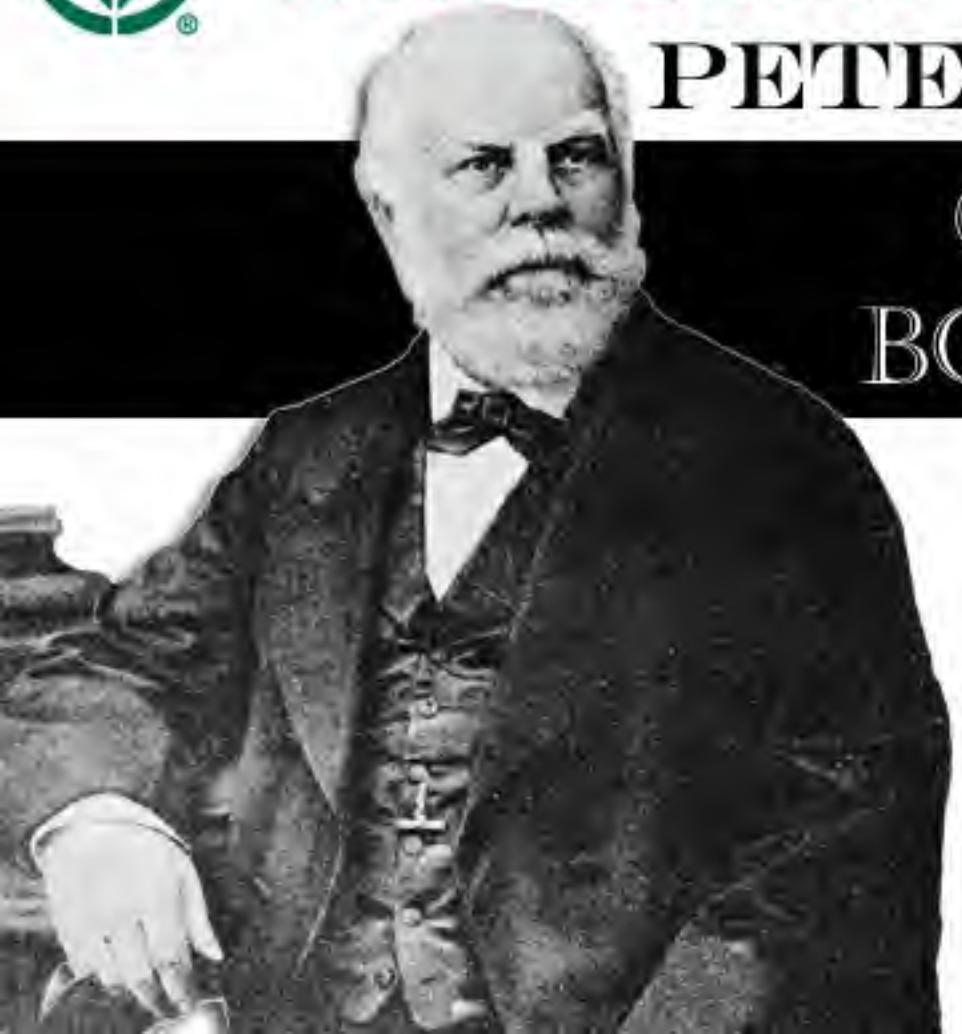
Missouri Botanical Garden
Peter H. Raven Library

George Engelmann Botanical Notebooks



Pagination Note:
Since many of the items lack a specific page number, the page number displayed online refers to the sequentially created number each item was given upon cataloging the materials.

5 to 6

23

P. Congestiflora

413-7

0 1 2 3 4 5 6 7 8 9 10
cm
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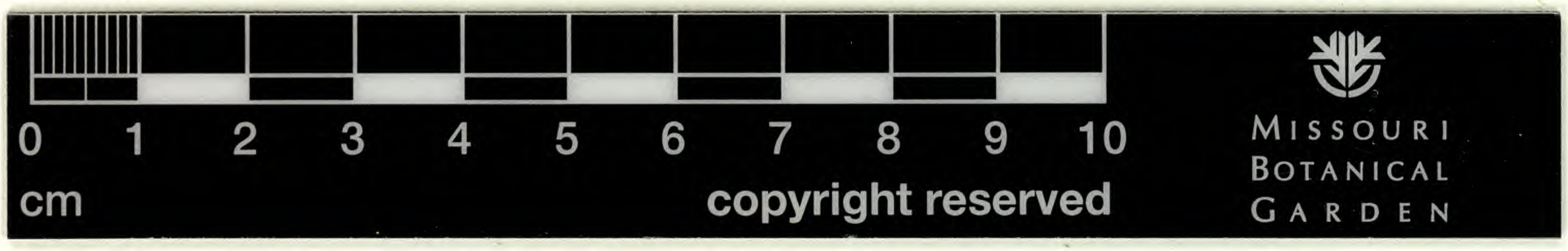


Pinus longifolia

Sikkim, Hooker Leg

May 12 1879

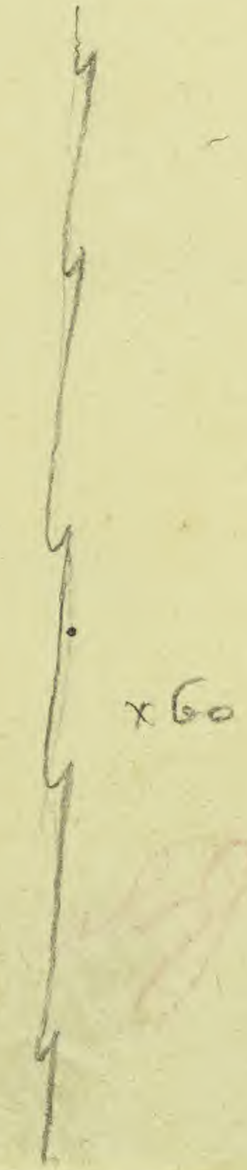
Leaves = 2½ – 3"

x 30

ducts peripheral, inhistinct or small, mostly 6 sides, surrounded by hypoderm

hypoderm also within sheath

x 30



x 60

no duct seen in these sections

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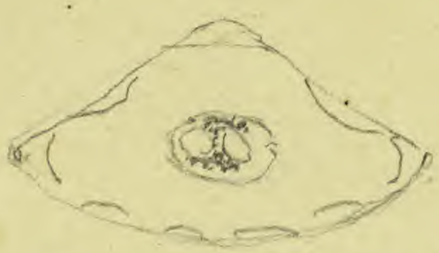
Pinus Coulteri

Hort Thuret 1869

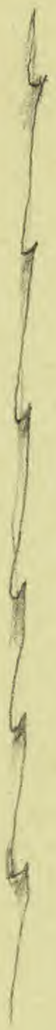
May 12 1879

×30



no trace of dicts!
hypoderm + strong
bast fibre bundles all around
and mostly also
within sheath

×30



×60

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Nov 14 1879

Pinus Conifolia

from Lambert Herb. ÷ Hb Acad

Philadelph

x 10

Nov 20th

x 10

x 60

Dents small, peripheral

Segments in angles very slight

Some cavities epidermis

crest of Anther large

denticulate - fringed

see figure

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APOTHECARY & CHEMIST,

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Nov 14 1879

Pinus Longifolia

Roxb. ic 6065 = Hb Arad Phila

× 30

reexamined
Nov. 20
hypoderm sparing
ducts peripheral
one at base of fascicle

ducts peripheral
indistinct

very little hypoderm on keel

× 10

cuticle large
crust slightly
denticulate

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Pinus Cong. foliis

ex Herb Lambert

Nov 19 1879

via Hb. Acad Ph. Cad.

involucr. lost

×10

very distinct from Khasya by the larger thicker flowers, larger more fringed bracts involucr? and by the large rather white large fringed dark violet coat

bract large and very much fringed

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8 tab

22

P. Balfouriana

405-412

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cm
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Calif. State Survey 2803

Pinus ~~radiata~~ Sabiniana
Sierra Nevada

March 12 1865

March 11

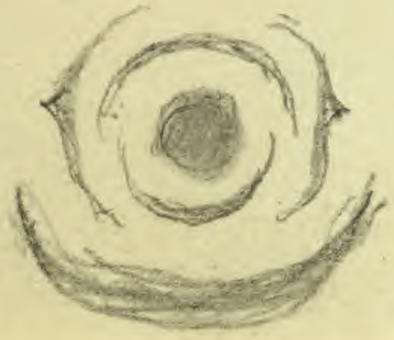
March 12
cotter

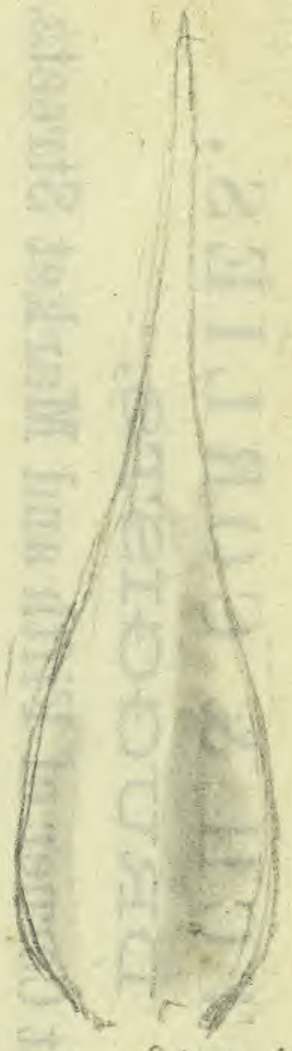
(0.031 – 0.036 Gm)

0.030 – 0.034, mostly 0.032 Gm

X10

X4





brit X4

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cm
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LEITCH & CORLIES, 11408

DRUGGISTS,

South-West Corner of Fifth and Market Streets.

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Pinus Balfouriana
Hort ex Lindley

April 10 1871

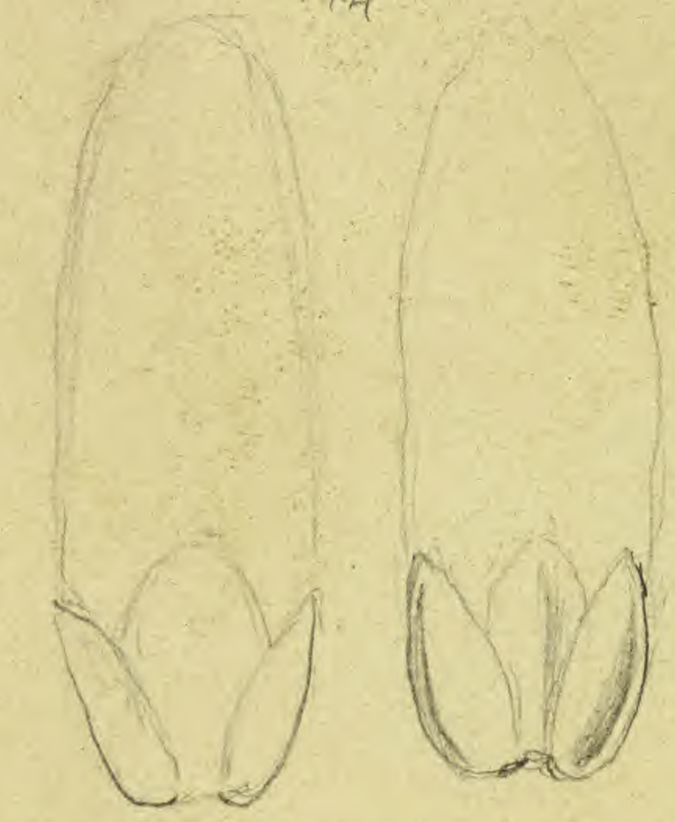
Pollen: old, mouldy

25–31.5 μ
415

one good Pollen grain

35
415

X4



lower or anterior

upper or posterior

side

usual

rare

Gray Herbarium
Harvard University
HARVARD COLLEGE

0 1 2 3 4 5 6 7 8 9 10
cm
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11409

Leitch & Corlies

DRUGGISTS

South West Corner Fifth and Market Streets

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Feb 21 1876

Pin. Californiana
Monterey, Calif — Rotten rock
Nov 1875

x30

cells with thick thenth with dots x415

hypoderm all around, and around the 2 dorsal ducts (hypoderm)

4-6 lines of stomata on upper sides

no stom on back —

2 darker stripes indicating the ducts

x150

wood cells x415

x150

11410

Leitch & Corlies

DRUGGISTS

South-west Corner Fifth and Market Streets

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cm 0 1 2 3 4 5 6 7 8 9 10
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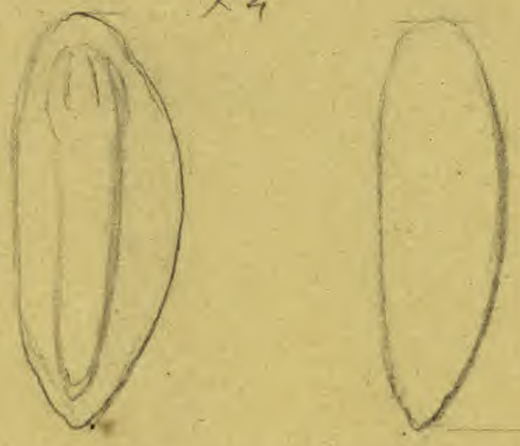
7 x 3 x 2¾

P. Bulgaricum

Head of Kingi River 1876

very hirsit

187



x 4

3 rows with 5 cotyledons

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PHARMACEUTICAL CHEMIST,

No. 301 South Fifth Street, Cor. Myrtle, ST. LOUIS.

No. *Date* 187

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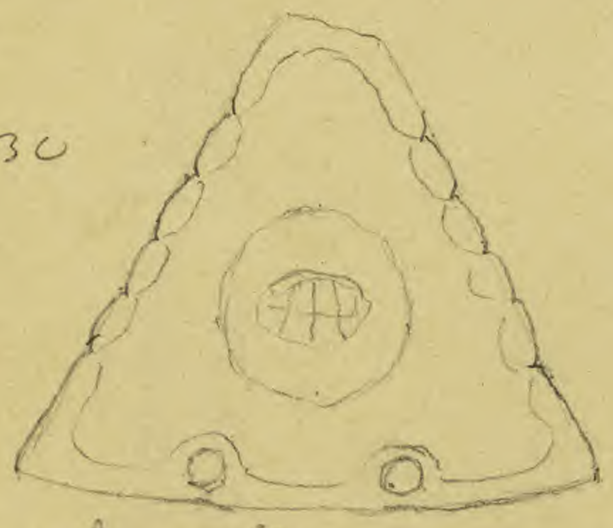
Pinus Balfouriana

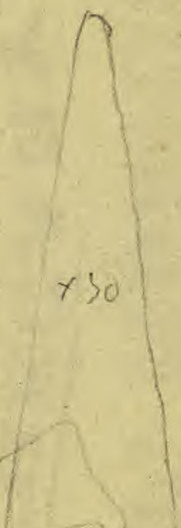
April 30 1878

Shasta, Jeffrey Cog 1851



strong hypoderm cells all around

Hort Edinburg, cult from Jeffreys seeds



hypod cells all around sparing; around duct incomplete by development, but distinct

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Geo. Engelmann, M. D.,
No. 3003 Locust Street.

cm 0 1 2 3 4 5 6 7 8 9 10
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